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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/626,021	07/24/2003	Darin D. Lindig	10002404-3	9974

7590 01/30/2006  
HEWLETT-PACKARD COMPANY  
Intellectual Property Administration  
P.O. Box 272400  
Fort Collins, CO 80527-2400

EXAMINER
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LARKIN, DANIEL SEAN

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/626,021

Applicant(s)

LINDIG, DARIN D.

Examiner

Daniel S. Larkin

Art Unit

2856

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 21 December 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-7,9-17 and 19-21 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☐ Claim(s) 1-7,9-17 and 19-21 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## **DETAILED ACTION**

### ***Response to Arguments***

1. Applicant's arguments with respect to claims 1-7, 9-17, 19, and 20 have been considered but are moot in view of the new ground(s) of rejection.

### ***Claim Rejections - 35 USC § 102***

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 6, 13, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by US 5,376,790 (Linker et al.).

With respect to the limitations of claim 6, the reference to Linker et al. discloses a method for detecting the roughness of a medium surface, comprising the steps of: engaging a medium surface (104) with a surface-engaging member (101), see col. 1, lines 59-64; projecting light energy (402) towards a reflective member (102) associated with the surface-engaging member (101) in a manner in which the light energy is reflected by the reflective member (102); receiving light energy (406) that is reflected by the reflective member (102); and ascertaining, from the received light energy, a roughness measurement (i.e. an image) of the medium surface's roughness, col. 2, lines 49-59.

With respect to the limitation of claim 13, the reference to Linker et al. discloses that the light energy projected towards the reflective member comprises a visual light from an LED, col. 9, lines 26-27.

With respect to the limitations of claim 15, the reference to Linker et al. discloses a scanning probe microscope, comprising: a surface-engaging member (101, 102) configured to physically engage a medium surface (104) and to move in response to variations along the medium surface, see col. 1, lines 59-64; an electromagnetic radiation emitting device (400) to direct electromagnetic radiation towards the surface-engaging member (101, 102); and a sensor (406) configured to receive electromagnetic radiation from the surface-engaging member (102).

With respect to the limitation of claim 16, the reference to Linker et al. discloses that the surface-engaging member (101, 102) is a cantilever.

With respect to the limitation of claim 17, the reference to Linker et al. discloses that the electromagnetic radiation source is configured to project light, col. 9, lines 26-27.

### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Art Unit: 2856

5. Claims 1-5, 7, 9-14, and 19-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 5,376,790 (Linker et al.) in view of "Atomic Force Microscope Topographical Explanation of Paper Gloss Anomalies" (Wygant) and US 5,934,140 (Jackson et al.).

With respect to the limitations of claim 1, the reference to Linker et al. discloses a scanning probe microscope, comprising: a surface-engaging member (101, 102) configured to physically engage a medium surface (104), the surface-engaging member comprising a flexure material body (102) that is supported in a cantilevered disposition proximate a piece of medium (104); a reflective member joined with the surface-engaging member (102); one or more light sources (400) in operable proximity to the reflective member (102) and configured to project light energy toward the reflective member (102); and a position detector (406) mounted in operable proximity to the reflective member (102) and configured to receive light energy that is reflected from the reflective member (102), the surface-engaging member (101, 102) being configured for displacement by the medium's surface in accordance with variations in the roughness of the surface sufficiently so that light that is reflected by the reflective member and received by the position detector can be utilized to ascertain a measure of the medium surface's roughness. The reference to Linker et al. fails to disclose a printed medium or associating the surface-engaging member with a printer.

The reference to Wygant discloses the use of an atomic force/scanning probe microscope to measure topographical data, including roughness, of paper. Utilizing an atomic force/scanning probe microscope to determine roughness data of paper would

Art Unit: 2856

have been obvious to one of ordinary skill in the art because scanning probe microscopy offers the highest resolution available for studying paper coating surfaces and one would be motivated to use the best technology available. The references to Linker et al. and Wygant both fails to disclose an optical deflection system associated with a printer.

The reference to Jackson et al. discloses a paper property sensing system, comprising: a printer (9); a surface-engaging member (112) associated with the printer and configured to physically engage a medium surface, the surface-engaging member comprising a flexure material body that is supported in a cantilevered disposition proximate a piece of medium (116) to be printed upon by the printer (9); one or more light sources (120) in operable proximity to a reflective portion of the surface-engaging member (112) and configured to project light energy toward the reflective portion of the surface-engaging member (112); and a position detector (122) mounted in operable proximity to the reflective portion of the surface-engaging member (112) and configured to receive light energy that is reflected from the reflective portion of the surface-engaging member. Modifying the roughness measurement means of Linker et al. in view of Wygant such that it can be placed within a printer would have been obvious to one of ordinary skill in the art as a means of providing continuous adjustment of paper handling qualities as well as providing continuous adjustment of image transfer capabilities.

With respect to the limitations of claims 2, 3, 10, and 11, the references to Linker et al. and Wygant both fail to modulate one or more print parameters. The reference to

Art Unit: 2856

Jackson et al. discloses the use of a controller (38) that controls and coordinates the operations of the reproductive machine (9). The reference further states that the various measurements gathered may allow one to enable control of proper paper paths and process parameters, like fuser temperature (col. 8, lines 51-54). Providing means for modulating print parameters would have been obvious to one of ordinary skill in the art as a means for providing consistent printing quality.

With respect to the limitation of claim 4, the references to Linker et al. and Wygant both fail to disclose that the flexure material body is comprised of metal. The reference to Jackson et al. discloses that the flexure body (112) may be metal as used in the embodiments of Figures 2A and 2B. Providing a metal flexure body would have been obvious to one of ordinary skill in the art as a means for providing a rugged yet sensitive surface engaging device, while also keeping the reflective features of the flexure member.

With respect to the limitation of claim 5, the reference to Linker et al. discloses a flexure material body (102) having first and second ends, wherein the body of the flexure member (102) tapers between the two ends.

With respect to the limitation of claim 9, the references to Linker et al. and Jackson et al. both disclose that their respective light sources are comprised of visible light sources, i.e. LEDs.

With respect to the limitation of claim 12, the reference to Linker et al. discloses that the position detector (406) is sensitive and calibrated to detect movement of light reflected by the reflective member (102), col. 8, lines 13-28.

With respect to the limitations of claims 7, 14, 19 and 20, the references to Linker et al. fails to modulate one or more print parameters.

The reference to Wygant discloses the use of an atomic force/scanning probe microscope to measure topographical data, including roughness, of paper. The reference to Wygant also fails to modulate one or more print parameters.

The reference to Jackson et al. discloses a paper property sensing system, comprising: a printer (9); a surface-engaging member (112) associated with the printer and configured to physically engage a medium surface, the surface-engaging member comprising a flexure material body that is supported in a cantilevered disposition proximate a piece of medium (116) to be printed upon by the printer (9); one or more light sources (120) in operable proximity to a reflective portion of the surface-engaging member (112) and configured to project light energy toward the reflective portion of the surface-engaging member (112); and a position detector (122) mounted in operable proximity to the reflective portion of the surface-engaging member (112) and configured to receive light energy that is reflected from the reflective portion of the surface-engaging member. Additionally, the reference to Jackson et al. discloses the use of a controller (38) that controls and coordinates the operations of the reproductive machine (9). The reference further states that the various measurements gathered may allow one to enable control of proper paper paths and process parameters, like fuser temperature (col. 8, lines 51-54). Providing means for modulating print parameters would have been obvious to one of ordinary skill in the art as a means for providing consistent printing quality.



With respect to the limitations of claim 21, the reference to Linker et al. discloses a scanning probe microscope, comprising: a surface-engaging member (101, 102) configured to physically engage a medium surface (104), the surface-engaging member comprising a flexure material body (102) that is supported in a cantilevered disposition proximate a piece of medium (104); a reflective member joined with the surface-engaging member (102); one or more light sources (400) in operable proximity to the reflective member (102) and configured to project light energy toward the reflective member (102); and a position detector (406) mounted in operable proximity to the reflective member (102) and configured to receive light energy that is reflected from the reflective member (102), the surface-engaging member (101, 102) being configured for displacement by the medium's surface in accordance with variations in the roughness of the surface sufficiently so that light that is reflected by the reflective member and received by the position detector can be utilized to ascertain a measure of the medium surface's roughness wherein the position sensor is sensitive and is calibrated to detect movement of light reflected by the reflective member, col. 8, lines 13-28. The reference to Linker et al. fails to disclose a printed medium or associating the surface-engaging member with a printer.

The reference to Wygant discloses the use of an atomic force/scanning probe microscope to measure topographical data, including roughness, of paper. Utilizing an atomic force/scanning probe microscope to determine roughness data of paper would have been obvious to one of ordinary skill in the art because scanning probe microscopy offers the highest resolution available for studying paper coating surfaces

Art Unit: 2856

and one would be motivated to use the best technology available. The references to Linker et al. and Wygant both fails to disclose an optical deflection system associated with a printer.

The reference to Jackson et al. discloses a paper property sensing system, comprising, a printer (9); a surface-engaging member (112) associated with the printer and configured to physically engage a medium surface, the surface-engaging member comprising a flexure material body that is supported in a cantilevered disposition proximate a piece of medium (116) to be printed upon by the printer (9); one or more light sources (120) in operable proximity to a reflective portion of the surface-engaging member (112) and configured to project light energy toward the reflective portion of the surface-engaging member (112); and a position detector (122) mounted in operable proximity to the reflective portion of the surface-engaging member (112) and configured to receive light energy that is reflected from the reflective portion of the surface-engaging member. Modifying the roughness measurement means of Linker et al. in view of Wygant such that it can be placed within a printer would have been obvious to one of ordinary skill in the art as a means of providing continuous adjustment of paper handling qualities as well as providing continuous adjustment of image transfer capabilities.

### ***Double Patenting***

6. A rejection based on double patenting of the "same invention" type finds its support in the language of 35 U.S.C. 101 which states that "whoever invents or

Art Unit: 2856

discovers any new and useful process ... may obtain a patent therefor ..." (Emphasis added). Thus, the term "same invention," in this context, means an invention drawn to identical subject matter. See *Miller v. Eagle Mfg. Co.*, 151 U.S. 186 (1894); *In re Ockert*, 245 F.2d 467, 114 USPQ 330 (CCPA 1957); and *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

A statutory type (35 U.S.C. 101) double patenting rejection can be overcome by canceling or amending the conflicting claims so they are no longer coextensive in scope. The filing of a terminal disclaimer cannot overcome a double patenting rejection based upon 35 U.S.C. 101.

7. Applicant is advised that should claim 12 be found allowable, claim 21 will be objected to under 37 CFR 1.75 as being a substantial duplicate thereof. When two claims in an application are duplicates or else are so close in content that they both cover the same thing, despite a slight difference in wording, it is proper after allowing one claim to object to the other as being a substantial duplicate of the allowed claim. See MPEP § 706.03(k).

8. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated

Art Unit: 2856

by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

9. Claim 1 is rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 2, and 8 of U.S. Patent No. 6,629,452. Although the conflicting claims are not identical, they are not patentably distinct from each other because of the following reasons. First, the claimed recitation of paper in the patent claims is obvious over the limitation of a medium as recited in the application claim.

Secondly, with respect to claim 2 of the patent reciting a cantilever structure, this limitation is recited in application claim 1, i.e. cantilevered disposition. The application claim further recited a flexure material body. The examiner takes the position that this feature, the flexure material body, as recited in application claim 1, is inherent to the teachings of the structure recited in claims 1 and 2 of the patent. Specifically, a

cantilever that does not flex would be unable to identify the minute topographical features of the paper and would therefore be inoperative. Therefore, the cantilever, in order to perform its intended function, must have some flexibility.

Lastly, with respect to the limitation of claim 8 of the patent reciting a flexure material body, this limitation is also recited in application claim 1. The application claim further recites a cantilevered disposition. The examiner takes the position that this feature, the cantilevered disposition, as recited in application claim 1, is inherent to the teachings of the structure recited in claims 1 and 8 of the patent. Specifically, a flexure member that is not cantilevered would have difficulty in measuring the minute topographical features of the paper because both ends of the flexure member would be fixed, whereas a cantilever having one fixed end and one free end would have the ability to accurately measure the minute details of the paper's surface. Moreover, the light reflected from a fixed flexure member would most likely cause interference with the incoming light further complicating the accuracy of the invention. Additionally, viewing the claim in light of the specification, applicant only discloses a flexure material body that is supported in a cantilevered fashion, therefore, it is the examiner's position that the flexure material body would inherently have a cantilever structure as well.

### ***Conclusion***

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

The prior art to Wygant (Pigment Coating and Surface Sizing of Paper) discloses

Art Unit: 2856

the various techniques available for characterizing paper coating structures. One technique disclosed includes scanning probe microscopy.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Daniel S. Larkin whose telephone number is 571-272-2198. The examiner can normally be reached on 8:00 AM - 5:00 PM Mon-Fri.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron Williams can be reached on 571-272-2208. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Daniel Larkin  
AU 2856  
26 January 2006



**DANIEL S. LARKIN**  
**PRIMARY EXAMINER**